

Appl. No. : 10/774,164
Filed : February 6, 2004

REMARKS

In the August 19, 2004 Office Action, the Examiner states on page 2 that Claims 1-17 are rejected as obvious over U.S. Patent No. 5,889,796 to Whaley ("Whaley"). The undersigned has confirmed with Examiner Iqbal via telephone on November 12, 2004 that Claims 1-17 are rejected as obvious over a combination of Whaley and a U.S. Patent Application Publication by Loaiza. The undersigned also confirmed with Examiner Iqbal that of the two Patent Application Publications by Loaiza that are listed on the Examiner's PTO-892 form, the Examiner is relying on U.S. Patent Application Publication No. 2004/0140288 A1 by Loaiza ("Loaiza"). Applicants request reconsideration of the rejections in view of the following comments.

For the purposes of responding to the Office Action, Applicants will treat all of the cited references as prior art, but Applicants reserve the right to swear behind one or more of the references in the future.

Discussion of Rejection of Claim 1 Under 35 U.S.C. § 103(a) over Whaley in view of Loaiza

In rejecting Claim 1, the Examiner states that Whaley, at Col. 2, lines 39-42, teaches that "if data is read from the wrong physical location, the data will be scrambled and will appear to be an uncorrectable ECC error." The Examiner acknowledges that Whaley does not teach "comparing the value contained in an error detection sector of the cluster to an expected value to determine whether the disk drive accessed data from a correct physical location on the disk drive." However, the Examiner takes the position that it would have been obvious to add this feature to Whaley in view of the teachings of Loaiza. Specifically, the Examiner states that "[i]t would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the logical process on the data as taught by Loaiza into the process of Whaley to be able to compare the results with the previously calculated checksum to verify that the data block still has the correct checksum value."

Applicants respectfully submit that Whaley and Loaiza cannot properly be combined in the manner proposed by the Examiner. "If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." See M.P.E.P. 2143.01, citing *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

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As acknowledged by the Examiner, "if data is read from the wrong physical location, ... an uncorrectable ECC error" results. Whaley states that "[i]n fact, the output data will have errors that are uncorrectable by the ECC unit 20." See col. 6, lines 17-18. Whaley further notes that "[i]f the error is not correctable, the ECC unit 20 discards the signal and informs the controller 24 of such." It should be noted that the disk controller 24 is not in the data path, see Figure 1. Thus, when there is an error with Whaley, there is no data that is passed from the ECC 20, to the interface 22, and to the host 30. Since no data can be retrieved upon an error with Whaley's system, any checksum added by the Examiner's modification of Whaley with Loaiza that would be stored in the data block could not be read, and a comparison between calculated checksums and previously calculated checksums could not be performed. Therefore, there is no suggestion or motivation to make the Examiner's proposed modification, and it is improper to combine Whaley and Loaiza.

Even if Whaley and Loaiza were to be combined, Applicants respectfully submit that the combination does not teach or suggest the invention as claimed. For example, the proposed combination of Whaley and Loaiza does not teach or suggest "comparing the value contained in an error detection sector of the cluster to an expected value to determine whether the disk drive accessed data from a correct physical location on the disk drive" as claimed. In addition, Applicants note that a checksum relates to checking the integrity of data and not to "whether the disk drive accessed data from a correct physical location on the disk drive" as claimed. As explained in paragraph [0006], "[w]here the data in the drive is already corrupted by, for example, seeking to the wrong physical location, conventional error checking schemes may fail to detect the error."

Therefore, Applicants respectfully maintain that Whaley and Loaiza should not be combined, and that even if Whaley and Loaiza were to be combined as proposed by the Examiner, the proposed combination does not teach or suggest the invention as claimed. Accordingly, Applicants request allowance of Claim 1.

Discussion of Rejection of Claim 9 Under 35 U.S.C. § 103(a) over Whaley in view of Loaiza

In rejecting Claim 9, the Examiner states that Whaley, at col. 2, lines 35-38, teaches "that the system utilizes a randomizer unit having a variable initialization value to process data before it is written onto the storage medium." The Examiner acknowledges that Whaley "does not

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explicitly disclose comparing a value retrieved within the cluster of data to an expected value to determine whether the disk drive accessed data from a correct physical location on the disk drive," and uses Loaiza to provide this feature.

As discussed earlier in response to the Examiner's rejection of Claim 1, Applicants respectfully submit that it is improper to combine Whaley and Loaiza because the system taught by Whaley "discards the signal" upon an error such that comparisons of checksums as taught by Loaiza cannot be performed. Applicants further respectfully submit that even if Whaley and Loaiza were to be combined, the combination does not teach or suggest the invention as claimed. For example, a combination of Whaley and Loaiza does not teach or suggest "a read circuit adapted to read a cluster of data from the disk drive in response to a read request from a host, and to compare a value retrieved within the cluster of data to an expected value to determine whether the disk drive accessed data from a correct physical location on the disk drive."

In contrast to the Examiner's assertions, the proposed combination with Loaiza does not teach or suggest "to compare a value retrieved within the cluster of data to an expected value to determine whether the disk drive accessed data from a correct physical location on the disk drive." Applicants respectfully submit that Loaiza's checksum relates to "data integrity" (see title), and not "whether the disk drive accessed data from a correct physical location on the disk drive," as claimed.

Therefore, Applicants respectfully maintain that Whaley and Loaiza should not be combined, and that even if Whaley and Loaiza were to be combined as proposed by the Examiner, the proposed combination does not teach or suggest the invention as claimed. Accordingly, Applicants request allowance of Claim 9.

Discussion of Rejection of Claim 16 Under 35 U.S.C. § 103(a) over Whaley in view of Loaiza

In rejecting Claim 16, the Examiner states that Whaley, at col. 2, lines 35-38, "teaches that the system utilizes a randomizer unit having a variable initialization value to process data before it is written onto the storage medium. The variable initialization value is based upon the address of the data storage location being accessed." The Examiner further states that Whaley "thus teaches limitations pertaining to a sector containing additional verification data separate from the sector that stores the input/output and further teaches an error detection sector that

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contains a value indicating a physical location on the disk.” Applicants respectfully submit that the Examiner mischaracterizes Whaley.

Whaley states that “[t]he data block is then transferred to the randomizer unit 18 that processes the data block according to a variable initialization value from the IVDU 26.” See col. 4, lines 33-36. Thus, rather than teach “a sector containing the additional verification data is separate from sectors that store the input/output data in the cluster,” as claimed, it appears that all the data blocks are modified by Whaley’s randomizer unit.

In addition, the Examiner acknowledges that Whaley “does not explicitly disclose comparing the additional verification data to an expected verification data to detect the error” and uses Loaiza to provide the “comparing the additional verification data to an expected verification data to detect the error.” As discussed earlier in response to the Examiner’s rejection of Claim 1, Applicants respectfully submit that it is improper to combine Whaley and Loaiza because the system taught by Whaley “discards the signal” upon an error such that comparisons of checksums as taught by Loaiza cannot be performed.

Therefore, Applicants respectfully maintain that Whaley and Loaiza should not be combined, and that even if Whaley and Loaiza were to be combined as proposed by the Examiner, the proposed combination does not teach or suggest the invention as claimed. Accordingly, Applicants request allowance of Claim 16.

Discussion of Rejection of Dependent Claims 2-8, 10-15, and 17

Dependent Claims 2-8, 10-15, and 17 depend from and further define Claims 1, 9, and 16, respectively, and are therefore allowable over the cited references. In addition, the dependent claims recite numerous additional distinctions over the cited references.

For example, dependent Claim 5 describes wherein each cluster contains exactly one error detection sector. Applicants disagree with the Examiner’s assertion that Whaley “would also utilize a cluster containing exactly one error detection sector.” Whaley does not teach an error detection sector in a cluster, let alone using exactly one error detection sector for each cluster. Moreover, the term “cluster” is not even used by Whaley. Rather, it appears that Whaley embeds his error detection information in all data blocks.

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Summary

In view of the foregoing remarks, Applicants respectfully request the Examiner to withdraw the rejections of Claims 1-17 35 U.S.C. § 103(a). Applicants further request the Examiner to allow Claims 1-17 and to pass the present application to the issue process.

If there is any further impediment to the prompt allowance of the present application, Applicants request the Examiner to call the undersigned attorney of record at 310-407-3466 or at the telephone number listed below to resolve any such impediment.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: Nov. 15, 2004

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